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A New Tribe and a New Species in the Subfamily Pemphiginae (Homop.: Aphididae).

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(Plate V.)

In 1911, Wilson (1) erected the genus *Georgia* for *ulmi* a new species of aphid from the elm. Baker (2) placed *Georgia* in the tribe Eriosomatini. The senior author (3) following Baker also placed this genus in the tribe Eriosomatini. Later, after having examined Wilson's type and material from Iowa, representing an undescribed species of *Georgia*, it became apparent that this genus did not belong in the tribe Eriosomatini. Neither did it fit in any other tribe of the subfamily Pemphiginae. Therefore, a new tribe has been erected for the accommodation of *Georgia* including Wilson's *ulmi* and the species described as new in this paper.

GEORGIINI *new tribe.*

This tribe differs from Eriosomatini, to which it is closely related, in having all generations produced on one host; in having the sexuals produced by the 3rd generation which has been produced in the pseudo-gall formed by the stem mother; in the venation of the hind wing; and in the structure of the antennae and wax pores.

Characters: Antennae of fundatrix five-segmented. Cornicles slightly raised rings. Wax pores composed of irregularly shaped areas and bands; made up of many small several-sided facets. Rudimentary gonapophyses wanting. Fundatrigenia apterous. Antennae six-segmented. Wax pores similar in structure to those of the fundatrix. Cornicles as in fundatrix. Rudimentary gonapophyses wanting. Sexuparae alate; Antennae six-segmented; secondary sensoria weakly developed, not encircling the segments. Fore wing with *M* usually once forked, sometimes simple. Hind wing with *M* well developed; *Cu* absent or obsolete over part of its length. Cornicles as in the fundatrigenia. Rudimentary gonapophyses absent.

Georgia gillettei n. sp.

The type material was collected by Prof. J. E. Guthrie, June 18, 1924 on *Ulmus americana*, at Ames, Iowa. It was also collected by the junior author on the same host on May 24, 1924, May 30, 1924, and June 6, 1924. At these times it was quite common in the vicinity of Ames. Numerous attempts were made during the spring and summer of 1925 to collect more material but without success.

This species works on the under side of the leaves causing them to curl, thus forming a pseudo-gall within which the aphids may be found in large numbers. The leaves at the terminal ends of the branches seem to be preferred.

Description. Fundatrix: General color greenish-blue which is somewhat softened by the presence of a down-like pulverulence which covers the head, thorax and abdomen. Antennae yellowish-brown. Legs yellowish-brown. Antennae five-segmented. (Fig. A) Segments IV and V bear transverse rows of small, dark tubercles each terminating in a short spine. Permanent sensoria at the distal end of IV and at base of spur without fringe of cilia. Wax pores on base of head, segments of the thorax and segments I to VIII of the abdomen, composed of many small, several-sided facets; not bordered by chitinous ring. Those on segments VII and VIII of the abdomen form an unbroken band reaching the lateral margins of the abdomen. On the remaining segments of the abdomen and the thorax, these bands are broken into more or less irregularly formed areas, four to a segment. The wax pores on the lateral margins of the prothorax are much larger than the two dorsal ones. The latter are usually bordered in front by dark, more or less crescent-shaped spots. Two large wax pores are present on the base of head (Fig. G) nearly meeting at center line. Cornicles slightly raised rings, weakly developed, indistinct.

Beginning a short distance above the buccal lobe and extending over the front there is a dark, olive-brown area. This area begins narrowing a short distance back of the base of the head. Frequently this narrow portion is forked. In either case it separates the two wax pores on the base of the head. Eye tubercles dark brown. Beak, subgenital plate, anal plate and cauda, brown.

Measurements: Body 2.6mm long, 1.7mm wide. Relative lengths: Antennal segments; I, 4.5; II, 4.0; III, 12.0; IV, 4.5;

V, 3.5. Beak reaching 2nd coxae; terminal segment equal to or longer than hind tarsi. Front femur, 14; tibia, 18; tarsus, 5; Center femur, 15; tibia, 22; tarsus, 6; Hind femur, 19; tibia, 26.5; tarsus, 6.5.

Fundatrigenia: Apparently the young of the stem mother are all apterous. These apterous, viviparous females (*fundatrigenia*) give birth to the sexuparae.

General color greenish-blue. Head, thorax and abdomen clothed with down-like pulverulence. Antennae (Fig. C) six-segmented; no secondary sensoria, segments bearing several bristle like hairs. Permanent sensoria on V and VI without fringe of cilia. Cornicles (Fig. E) raised rings; distinct; on slightly raised cones surrounded by a circle of bristles on small tubercles. Beak reaching to the third coxae. Cauda broadly rounded. (Fig. F) Wax pores on thoracic segments and segments I to VII of the abdomen. Those on the abdominal segments VII and VIII form a continuous band reaching lateral margins. On other segments of the abdomen and the thorax the wax pores are more or less irregular in form. Four to a segment. Eyes three-faceted.

Measurements: Length of body, 1.2mm; width, .7mm. Relative lengths: Antennal segments, I, 3.0; II, 3.25; III, 10.5; IV, 4.5; V, 6.5; VI, 5.5. Front femur, 15.5; tibia, 18.0; tarsus, 6.0; Middle femur, 17.5; tibia, 24.5; tarsus, 6.75; Hind femur, 20; tibia, 24.5; tarsus, 7.5.

Sexupara: General color: head greenish-brown, lightly pulverulent; eyes brownish-black; antennae yellowish-brown. Thorax greenish-brown, lightly pulverulent. Legs yellowish-brown, tarsi slightly dusky. Abdomen greenish-blue, rather pulverulent. Antennae (Fig. H) six-segmented. Segments III, IV, V, and VI with slightly raised secondary sensoria: not distinctly annular. Sensoria not encircling the segments, some not as long as the diameter of the joint; frequently short oval. Number of secondary sensoria: III, 9-16; IV, 3-5; V, 0-4; VI, 0-1. Segments V and VI with well developed, permanent sensoria, membrane raised, constricted at the base. Two or three small sensoria (Fig. L) near large permanent one on VI; membrane raised at center forming a small cone. VI with transverse rows of very short bristles. V indistinctly imbricate. Beak (Fig. B) reaching 3rd coxae; apical joint longer than the hind tarsus (Fig. D) exclusive of claws. Wing venation variable. M of fore wing normally once forked; occasionally M of one or both wings simple. Fork of M usually short. Distance from tip of wing to fork rarely over two-thirds of that to base of stigmal vein. Hind wing with M present; Cu

wanting or obsolete through a portion of its length. Cornicles, raised rings on slightly raised cones surrounded by a circle of bristles on small tubercles. Cauda broadly rounded. Wax pores on abdomen (Fig. I) composed of many several-sided facets not surrounded by chitinous ring; on the seventh and eighth segments consisting of a continuous band reaching the lateral margins of the segments and covering nearly their whole length. Other segments with bands broken into four or more areas of irregular shape. There is a small wax pore on the inner posterior margin of the lateral lobes of the mesothorax, not visible in many specimens. Prothorax with two large dorsal pores nearly meeting at the middle of the segment. Lateral pores, if present, indistinct. There is a small oval wax pore on either side of the median line at the base of the head (Fig. M). In many specimens these are very indistinct, possibly wanting in some.

Measurements: Body 1.56mm long; .69mm wide. Relative lengths: Antennal segments; I, 3.0; II, 3.5; III, 18.0; IV, 6.0; V, 6.5; VI, 5.0. Front femur, 22; tibia, 27; tarsus, 7; Middle femur, 19; tibia, 30; tarsus, 8; Hind femur, 24; tibia, 37; tarsus, 9. Apical joint of beak, 9.25. Fore wing, 100 long; 36 wide; Hind wing, 60 long, 16 wide.

Holotype Sexupara, collected June 18, 1924, at Ames, Iowa, by J. E. Guthrie; in the collection of the junior author.

Comparison of *Georgia ulmi* and *G. gillettei*:

<i>ulmi</i>	<i>gillettei</i>
IV of antennae longer than V.	IV of antennae equal to or shorter than V.
Secondary sensoria on V, 3 to 5, most common number, 3 to 4.	Secondary sensoria on V, 0 to 4, most common number 1 to 2.
Terminal joint of beak distinctly shorter than hind tarsi.	Terminal joint of beak equal to or longer than hind tarsi.
Hind wing with Cu wanting.	Hind wing with Cu wanting or obsolete through a portion of its length.

LITERATURE QUOTED.

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Hemipterous Family Aphididae. United States Department of Agriculture Bulletin No. 826, p. 67.

3. 1923. MAXSON, ASA CHANDLER. Guide to the Insects of Connecticut, Part IV. The Hemiptera or Sucking Insects of Connecticut, Family Aphididae, Subfamily Pemphiginae, p. 314.

EXPLANATION OF PLATE V.

- Fig. A. Antenna of Fundatrix
 " B. Beak of Sexupara
 " C. Antenna of Fundatrigenia
 " D. Hind tarsus of Sexupara
 " E. Cornicle of Fundatrigenia
 " F. Cauda of Fundatrigenia
 " G. Head of Fundatrix
 " H. Antenna of Sexupara
 " I. Portion of wax pore plate of Sexupara
 " J. Hind wing of Sexupara
 " K. Fore wing of Sexupara
 " L. Tip of antennal joint IV Sexupara
 " M. Head of Sexupara

Entomological Experiences in South America.

(The following are extracts from a letter to the Editor with footnotes added on correcting proof.)

You may be interested to hear about our travels, and like to extract a news item for the ENTOMOLOGICAL NEWS. We had a day and a half at Rio de Janeiro on the way down, and visited the Instituto Oswaldo Cruz where Dr. C. Chagas showed us all over the place, and explained the truly wonderful work they are doing. I made notes, and hope to write an account of the visit at some later date.¹

When we got to Buenos Aires, July 4, 1925, it was raining hard, and very chilly. There was no collecting to be done, but we were there a week, and later for a few days, and greatly enjoyed meeting the local naturalists. Holmberg, well known for his studies of bees and other things, was extremely cordial, and is still actively interested in Entomology, though in

¹This was done, and appeared in *Nature*, Dec. 26.